AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

CLAIMS

Claim 1. (Original) A method for determining the rate of the first arm of reverse cholesterol transport in a living system, said method comprising:

a) administering one or more isotopically labeled high density lipoprotein (HDL) particles, isotopically labeled cholesterol molecules, or isotopically labeled cholesterol precursors to the living system;

b) obtaining one or more isotopically labeled cholesterol molecules from plasma HDL in the living system;

c) measuring isotopic content, isotopic pattern, rate of change of isotopic content, or isotopic pattern of the isotopically labeled cholesterol molecules;

d) calculating the rate of dilution of the isotopically labeled cholesterol molecules by endogenous unlabeled cholesterol to determine the rate of the first arm of reverse cholesterol transport in the living system.

Claim 2. (Currently Amended) ~~The~~ A method of determining the rate of the second arm of reverse cholesterol transport, said method comprising:

a) determining the rate of the first arm of reverse cholesterol transport according to claim 1;

b) administering one or more isotopically labeled bile acids to the living system, wherein:

i) the isotopically labeled bile acid is administered in a different manner than the labeling pattern of said one or more isotopically labeled high density lipoprotein (HDL) particles, isotopically labeled cholesterol molecules, or isotopically labeled cholesterol ~~precursors, or~~ precursors; or

ii) the isotope label of said isotopically labeled bile acids is different than the isotope label of said one or more isotopically labeled high density lipoprotein (HDL) particles, isotopically labeled cholesterol molecules, or isotopically labeled cholesterol precursors;

c) obtaining one or more bile acids from the living system;

d) measuring isotopic content, isotopic pattern, rate of change of isotopic content, or isotopic pattern of the one or more bile acids;

e) calculating the molecular flux rate of converting the cholesterol in plasma HDL to bile acid to determine the rate of second arm of reverse cholesterol transport in the living system.

Claim 3. (Original) The method of claim 2, wherein labeled bile acids are selected from the group consisting of cholic acid, chenodeoxycholic acid, deoxycholic acid, and lithocholic acid.

Claim 4. (Original) The method of claim 3, wherein the bile acid is cholic acid.

Claim 5. (Original) The method of claim 2, wherein the isotope label of the one or more isotopically labeled bile acids is ^{2}H, ^{3}H, ^{13}C, ^{14}C, or ^{18}O.

Claim 6. (Original) The method of claim 5, wherein the isotope label is ^{2}H.

Claim 7. (Original) The method of claim 1, wherein one or more isotopically labeled HDL particles are administered to the living system.

Claim 8. (Original) The method of claim 7, wherein the one or more isotopically labeled HDL particles are formed *ex vivo*.

Claim 9. (Original) The method of claim 1, wherein the one or more isotopically labeled HDL particles are administered by intravascular infusion.

Claim 10. (Original) The method of claim 1, wherein the living system is a human.

Claim 11. (Original) The method of claim 1, wherein the living system is a rodent.

Claim 12. (Original) The method of claim 1, wherein the isotopically labeled cholesterol molecules are cholesterol esters.

Claim 13. (Original) The method of claim 1, wherein the plasma HDL is obtained from a biological sample selected from the group consisting of blood, urine, feces, and a combination thereof.

Claim 14. (Original) The method of claim 1, wherein the isotopic content, isotopic pattern, rate of change of isotopic content, or isotopic pattern of the cholesterol molecules is determined by a method selected from the group consisting of mass spectroscopy, NMR spectroscopy, and liquid scintillation counting.

Claims 15-26 (Previously Canceled)